SPECIAL NOTE

PG BINDER AND MIX DESIGN LEVEL

Requirements of this note apply to all Section 404 Asphalt Pavement items in this contract, except for shim, permeable base, temporary pavements, and miscellaneous, which may use non-modified PG binders such as PG 64S-22 and PG 64H-22.

PG BINDER

Use polymer or Terminal Blend Crumb Rubber modified **PG 58E-34** (Extreme) meeting the requirements of AASHTO M 332, *Standard Specification for Performance Graded Asphalt Binder using Multiple Stress Creep Recovery (MSCR),* for the production of asphalt mixtures for this project. In addition, the binder grade must also meet the **elastomeric** properties as indicated by one of the following equations for $\%R_{3.2}$:

1. **For $J_{nr3.2} \geq 0.1$, $\%R_{3.2} > 29.371 * J_{nr3.2}^{-0.2633}$**
2. **For $J_{nr3.2} < 0.1$, $\%R_{3.2} > 55$**

Where:
$R_{3.2}$ is % recovery at 3.2 kPa
$J_{nr\,3.2}$ is the average non-recoverable creep compliance at 3.2 kPa

When terminal blend CRM PG binder is used, the following shall apply:

- Crumb rubber particles shall be finer than #30 sieve size.
- The CRM PG binder shall be storage-stable and homogeneous.
- The Dynamic Shear Rheometer (DSR) shall be set at 2-mm gap.
- The CRM PG binder shall be 99% free of particles retained on the 600 µm sieve as tested in accordance with Section 5.4 of M 332.

Use of polyphosphoric acid (PPA) to modify the PG binder properties is prohibited for mixtures under this contract. This prohibition also applies to the use of PPA as a cross-linking agent for polymer modification.

MIX DESIGN

The mixture designs must be developed in accordance with the criteria specified in the asphalt pavement items that are appropriate for the Mixture Design Level of **50 Gyrations**.

Note: The PG binder for this project will be modified with polymer or CRM additives to meet the requirements stated above. Handling of the asphalt mixture shall be discussed at pre-construction and pre-paving meetings.